



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,598	09/29/2003	Xiaoping Qian	132574 (1306-34)	2410
41838	7590	12/13/2005	EXAMINER	
GENERAL ELECTRIC COMPANY (PCPI)			NGUYEN, TU T	
C/O FLETCHER YODER			ART UNIT	
P. O. BOX 692289			PAPER NUMBER	
HOUSTON, TX 77269-2289			2877	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

HA

Office Action Summary	Application No. 10/673,598	Applicant(s) QIAN ET AL.	
	Examiner Tu T. Nguyen	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/29/03, 03/07/05</u> . | 6) <input type="checkbox"/> Other: ____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4,6,9-12,14,17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (fig 1) (AAPA hereinafter) in view of Janik et al (2003/0137662).

With respect to claims 1,9,17, AAPA discloses an optical metrology system for scanning an object. The system comprises: at least one light source 12 (fig 1) configured and adapted to emit a structured light pattern S (fig 1) against the surface 16 (fig 1) of the object; at least one first polarizer 18 (fig 1) disposed between the light source and the object such that the light pattern passes therethrough,; at least one camera 24 (fig 1) configured and adapted to take images of the object; and at least one second polarizer 22 (fig 1) disposed between the camera and the object.

AAPA does not disclose the first polarizer being configured and adapted to vary at least one of the plane of polarization and the polarization angle of the light pattern and the second polarizer having a fixed orientation. Janik discloses a system for monitoring a surface of an object. The system comprises: a first rotating polarizer 242 (fig 2B), and a second fixed polarizer 244 (fig 2B). It would have been obvious to modify AAPA with the first rotated polarizer and the second fixed polarizer taught by Janik to reduce unwanted reflections.

With respect to claims 2,10, AAPA discloses a laser source 12 (fig 1).

With respect to claims 3,11, Janik does not explicitly disclose the first polarizer being rotatable about an axis defined by the light pattern. Since Janik discloses the first polarizer could be rotatable, it would have been obvious a design choice to rotate the first polarizer as claimed to measure different characteristics of the object.

With respect to claims 4,12, AAPA disclose emitting at least one beam S (fig 1) to the object.

With respect to claims 6,14, the claimed limitation would have been obvious if the system only have a single second polarizer.

Claims 5,7-8,13,15-16,18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (fig 1) (AAPA hereinafter) in view of Janik et al (2003/0137662) and Svetkoff et al (6,028,671).

With respect to claims 5,13,18, AAPA does not disclose a plurality of cameras. Svetkoff discloses a measurement system. The system comprises: a plurality of cameras (image sensor, fig 1). It would have been obvious to modify AAPA with a plurality of cameras taught by Svetkoff to detect reflected light from different angles.

With respect to claims 7,15,21, Svetkoof discloses using different type of polarizers depending on the material of the sample (column 9, lines 45-55).

With respect to claims 8,16,19,20, it would have been obvious a design choice to manipulate the detected images as claimed for measuring different characteristics of the object.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T. Nguyen whose telephone number is (571) 272-2424. The examiner can normally be reached on T-F 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley Jr. can be reached on (571) 272-2800 Ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2877

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tu T. Nguyen', with a long, sweeping horizontal line extending to the right.

Tu T. Nguyen
Primary Examiner
Art Unit 2877

12/06/2005